

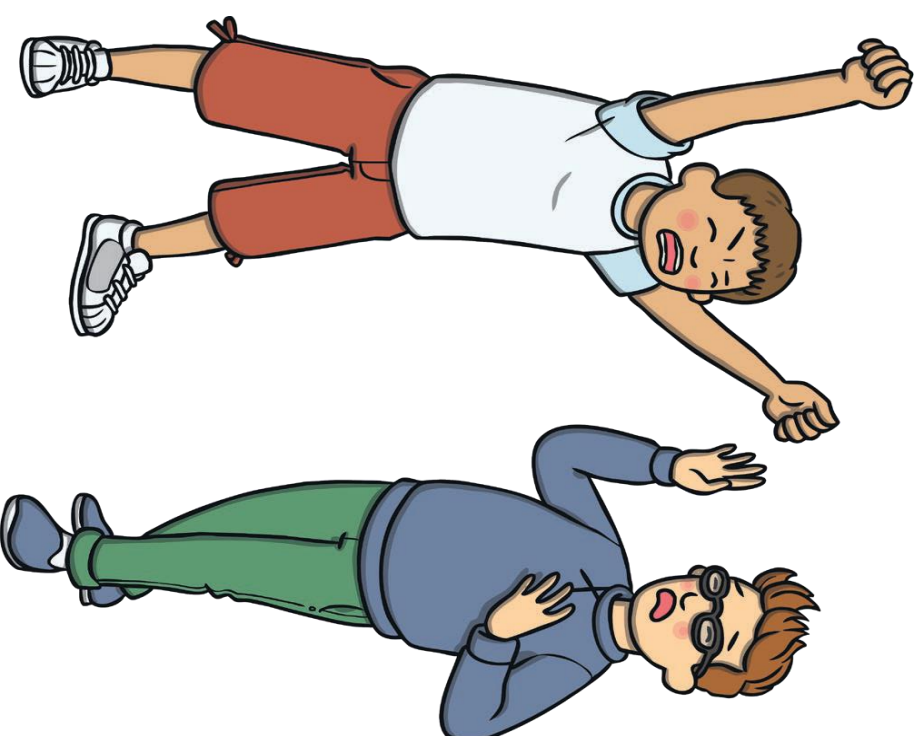
What Can You Do When Someone Is Being Unkind to You?

You see Max pushing Robert around in the playground.

What could you do to help?

If you were Robert, what could you do to stop Max pushing you around?

If you were Max, what would stop you from being unkind to Robert?



Look at the above scenarios and think about what the right thing to would be and record your ideas below.

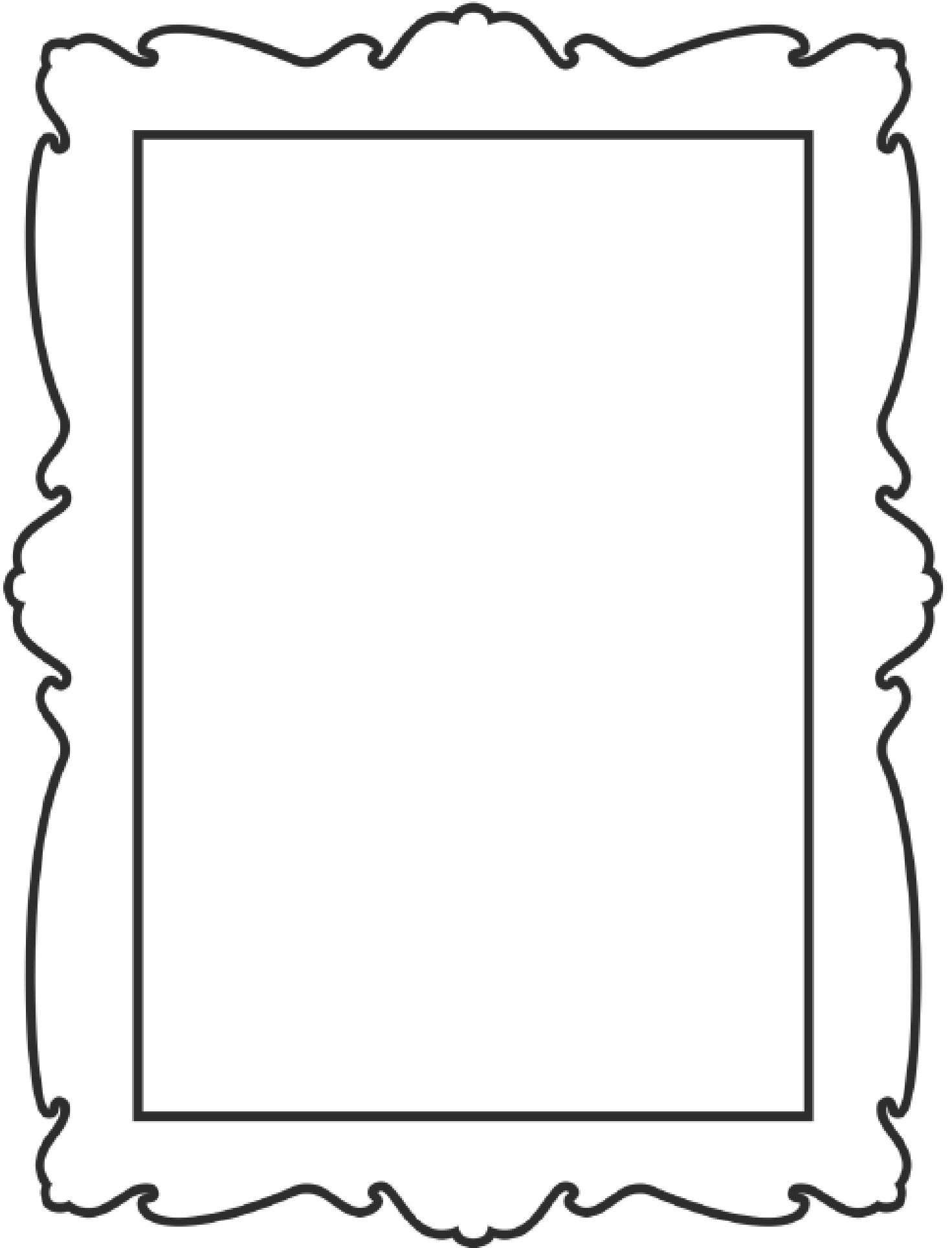
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What could you do to help?

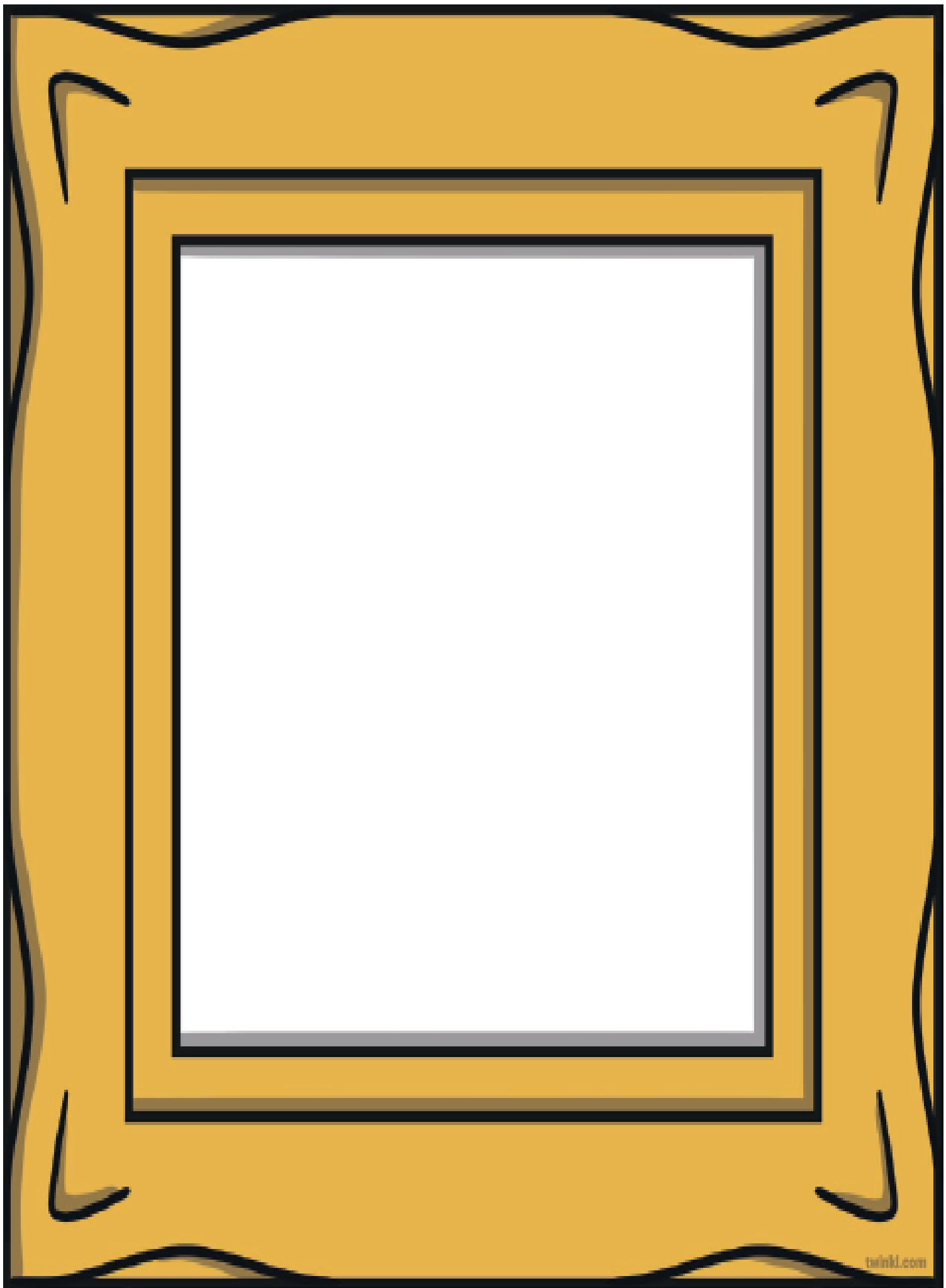
If you were Robert, what could you do to stop Max pushing you around?

If you were Max, what would stop you from being unkind to Robert?

Tuesday

Art







The Science of Sound



You have been asked to create an educational programme for children to explain how different sounds travel to our ears. The producers of the programme want you to explain the link between the loudness of a sound and the size of the vibrations, and explain how these sounds reach our ears.

Work with your group to plan the episode. All members of your group should take part equally. Make sure your explanations of how different sounds travel are clear and easy to understand. You may choose to use pictures or diagrams to support your explanations. Get into character and have fun!

1. Introduce yourselves and tell the audience what the programme will be about.

Hello and welcome to The Science of Sound! In this episode we will be...

2. Explain the link between loud and quiet sounds and the size of the vibrations.

Sounds are made by vibrations. Loud sounds...

3. Explain how sound travels from a sound source to our ears.

The vibrations that make the sound travel to our ears. The vibrations...

4. Give your audience any more information you think they need to know, then thank them for watching.

Thank you for watching The Science of Sound! We hope...

You may want to use these words to help you:

sound small air particles ear hear
big source travel loud quiet vibration

How Does Sound Travel



So we know that sounds are caused by vibrations, and the louder sounds have bigger vibrations.

But how do these different sounds reach our ears?

These children have been talking about their ideas.

What do you think of their ideas?

I think sound can travel through the air because the air is lighter and easier to get through than solids or liquids.



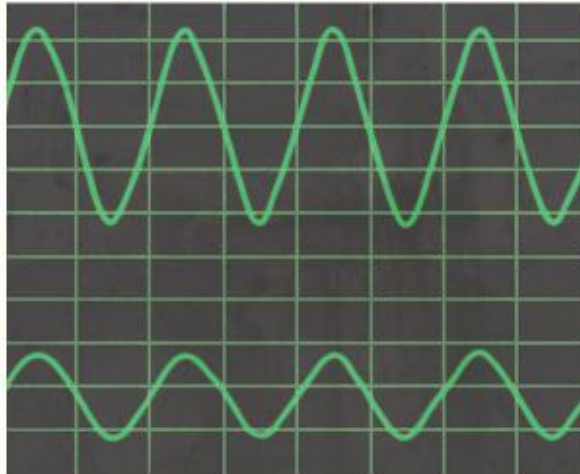
Sound moves the air from the source of the vibration into our ears. If we are listening, we will hear the sound.

Loud and Quiet

The louder the sound, the bigger the vibration. You should have noticed that the rice grains vibrated more when you hit the drum harder, creating a louder sound.

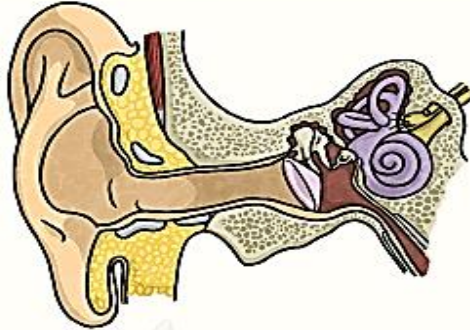
The size of the vibration is called the amplitude.

Quieter sounds have a smaller amplitude, and louder sounds have a bigger amplitude.



Hearing Sounds

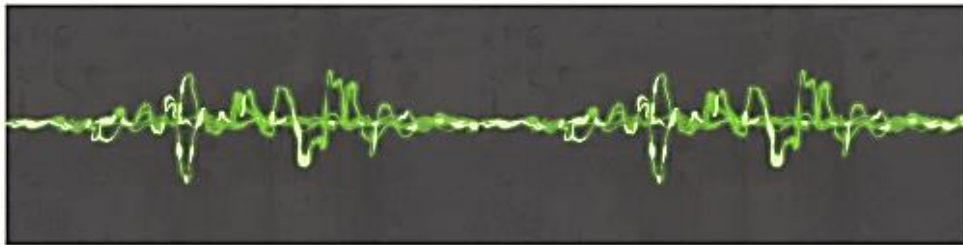
Once in your ear, the vibrations travel into the ear canal until they reach the eardrum. The eardrum passes the vibrations through the middle ear bones (the hammer, the anvil and the stirrup) into the inner ear. The inner ear is shaped like a snail and is called the cochlea. Inside the cochlea, there are thousands of tiny hair cells. Hair cells change the vibrations into electrical signals that are sent to the brain through the hearing nerve. The brain tells you that you are hearing a sound and what that sound is.



How Does Sound Travel?

Sound can travel through solids, liquids and gases.

Sound travels as a wave, vibrating the particles in the medium it is travelling in.



So in our example, when you hit the drum, the drum skin vibrated. This made the air particles closest to the drum start to vibrate as well. The vibrations then passed to the next air particle, then the next, then the next. This carried on until the air particles closest to your ear vibrated, passing the vibrations into your ear.

